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ABSTRACT

The USSR's success in educational development suggests that its experience may be helpful to developing nations. The USSR has, since the 1917 revolution, eradicated illiteracy and constructed a universal education system. Among the factors that made this possible are the use of educational planning based on broad development policies; the consideration of social and cultural as well as economic needs in shaping educational policies; mass support for and participation in education; use of the student's mother tongue for instruction; coordination of informal with formal education; provision of financial aid, transportation, and boarding schools where necessary; equal education for women; the fusion of vocational with general education; and maintenance of close connections between education and life and between theory and practice. Further, the USSR has based its educational system on the realization that the continuously changing nature of modern industry requires that workers be trained to be flexible and versatile. (Author/RW)

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The Fundamentals of Educational Planning : Lecture - Discussion Series

No. 65 SOME LESSONS FROM SOVIET EXPERIENCE IN EDUCATIONAL DEVELOPMENT

by S. Tanguiane

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SOME LESSONS FROM SOVIET EXPERIENCE IN EDUCATIONAL DEVELOPMENT

(lecture given at the IIEP on 13 April 1979)

by

S. Tanguiane

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SOME LESSONS FROM SOVIET EXPERIENCE IN EDUCATIONAL DEVELOPMENT

When the Director of the IIEP asked me to give a lecture at the Institute on a topic of my choice, I thought for quite some time before deciding on the topic. I chose the topic of today's paper for three reasons. The first is that the present month, April 1979, marks the 50th anniversary of the first Soviet Five-Year Plan, which was the first overall development plan in history.

The second is related to another anniversary. 25 years ago, in April 1954, the USSR, the birthplace of planning, including educational planning, became a member of Unesco and when, some years later, Unesco itself adopted the conception of planning, and worked actively to promote it, the Soviet experience and the USSR's contribution to the Organization's work certainly played an essential part in this process.

The third reason is the inherent interest and significance of the Soviet experience in educational development. I believe, and this belief is strengthened by the 30 years I have devoted to studying education throughout the world, its problems and history, and educational doctrines and policies, that this experiment remains unique in history by reason of its scope and the results attained, and that it suggests a whole series of lessons of major interest to other nations. This does not mean that the Soviet experience can or ought to be mechanically applied in other countries, but simply that as the USSR has had to solve numerous educational problems at present faced by many countries, the study of and acquaintance with its experience may open up new avenues for research on solutions to these problems in other countries, solutions adapted, of course, to each country's specific situation and requirements.

I shall deal with only a few of these lessons, since the time allotted to me does not permit me to cover them all, even briefly. But, before doing so, I feel it is worthwhile recalling a few facts and figures indicating the state of education prior to the Revolution of October 1917 and at the present time, and certain stages in the history of education since 1917. This will provide a measure of the ground covered in a few decades, and enable a better understanding of why I said that the Soviet experience, by its scope and the results attained in a relatively short period of time, remains unique in history.

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Let us recall, firstly, that prior to the October Revolution:

- three-quarters of the population were illiterate;
- certain peoples were 98% illiterate;
- most children did not attend school (4 out of 5);
- and, there were only 127,000 students in the higher-education system.

At the beginning of the century experts had made estimates showing that Russia would take at least 100 years to eradicate illiteracy and attain universal schooling at the primary level.

They did not, of course, foresee the Great Socialist Revolution of October 1917, and they could not imagine to what extent it would change the prospects and potential for socio-economic and educational development.

The main educational objectives and principles were defined by the Programme of Communist Party of the Soviet Union adopted in 1919. The draft programme prepared by Lenin, the Founder of the Soviet State, laid down that in the field of education, the objective was to carry through the work commenced by the October Revolution to transform the school, the instrument of bourgeois domination, into an instrument to eliminate this domination, and eliminate any class divisions in society.

The Party Programme adopted in 1919 provided, in particular, for the establishment of compulsory, free education, both general and polytechnical (providing theoretical and practical initiation in the main production sectors), for all children and adolescents of both sexes up to the age of 17; for the development of a network of pre-school establishments (day nurseries, kindergartens, play centres), with a view to improving public education and liberating women; the complete implementation of the principles of the common school incorporating work experience within its curriculum and providing teaching in the pupils' native tongue, co-educational and non-clerical, establishing a close relationship between education and socially productive work and providing for the full development of the members of the new society; for State supply to all pupils of food, clothing, shoes, school books, etc.; for the training of new educational staff; for the active participation of the working people in the education programme; for State aid to workers and peasants for their education and for self-culture (setting up of out-of-school education establishments, libraries, adult-learning schools, people's universities, special classes, cinemas, arts, centres, etc.); for the intensive development of vocational training in conjunction with general polytechnical education for persons aged 17 and over; and, for wide access to higher education for all those who desired to study, especially the workers, and for material assistance to the students in order to provide the workers and peasants with a real opportunity of benefiting from higher education.

Throughout the history of the Soviet State, educational policy has been developed in the light of experience and of the tasks already accomplished, and taking into account the main socio-economic and cultural development objectives at the various stages of construction of the new society. This policy has found its expression in the decisions taken by the congresses of the Communist Party of the Soviet Union (CPSU) and its Central Committee, in legislation -chiefly basic laws and Government acts-, and in development plans, especially the 5-year plans.

Among the most recent enactments may be mentioned the Basic Law on national education, 1973, and the new Constitution, 1977, whose ratification by the Supreme Soviet of the USSR was, in both cases, preceded by popular debate in which tens of millions of citizens took part.

In 1919, in the midst of the Civil War, when the country was facing huge problems and its very existence was threatened, Lenin signed a decree concerning the eradication of illiteracy, which set off a campaign of a scope and intensity the like of which has never been seen in history.

In spite of the huge destruction and enormous economic difficulties caused by the First World War, the Civil War and the military intervention of 14 foreign states, which caused the country, already underdeveloped in the true sense of the term, to become still further impoverished, so that it would have easily been ranked among the least developed countries in terms of GNP per capita, in spite of all this, in 1930, that is 13 years after the Revolution and 10 years after the end of the Civil War, the Soviet Union achieved universal, compulsory primary schooling.

Towards the end of the 1930s, that is, 20 years after Lenin's decree, following a child schooling and adult literacy campaign, only 12% of illiterates were left. In 20 years, scores and scores of millions of people had been taught to read and write.

In achieving this result, the USSR received no external assistance, nor was it able to count on any assistance from abroad.

The Nazi assault and the terrible war inflicted by them on the USSR caused losses which can hardly be imagined or calculated. 20 million Soviet dead, thousands of towns and villages destroyed, and over 80,000 schools razed to the ground. And, in spite of all this, four years after the end of the war, the country extended compulsory schooling to the first cycle of secondary education. In 1959 compulsory schooling was again extended by one year.

The census in the same year, 1959, showed that illiteracy had been completely eradicated.

The USSR was moving towards universal secondary education, which was virtually achieved around the middle of the 1970s. The new Constitution adopted in 1977 instituted compulsory secondary education. The Soviet Union thus became the first State to achieve this objective, of exceptional social and cultural significance.

The figures given below may provide some idea of the level of educational development in the USSR at present:

Over 95 million people out of a population of 262.4 million, that is over one-third of the population, are carrying on studies.

Of these 95 million people, approximately 60 million are in the "formal" system (general education, technical and vocational education, specialized secondary education and higher education).

5.2 million people completed their secondary studies in 1978.

In the same year, 771,000 students graduated from the higher-education system, and 1,226,000 from the specialized secondary education system which trains middle-level personnel.

2.2 million young people graduated from technical and vocational training establishments which train skilled workers.

The number of students in the full-cycle (4 to 6 years) higher-education system amounts to 5.1 million, and those in the specialized secondary-education system number 4.7 million. The great majority of students hold State scholarships.

The country has 1.3 million research workers, one-quarter of the world total.

In 1978, 37 million adults were able to improve their qualifications or acquire new trades and professions in apprenticeship classes, in enterprises, Kolkhozes, institutes, faculties, etc. This is known as continuing education and refresher training.

The total publication of books and brochures in 1978 was 1.9 thousand million copies.

Without counting the main libraries, the libraries of educational or research establishments and specialized libraries, there are in the USSR 130,000 public libraries in the towns and countryside.

Two final figures:

Approximately 80% of the active population have received education at the higher level, complete secondary level, or the first cycle of the secondary system, and over 90 out of every 1,000 people are higher-education graduates.

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This spectacular progress in education was rendered possible by a certain number of factors and conditions which can teach us a great deal about this in many ways unique experiment.

Firstly, this educational progress formed an integral part of the profound socio-economic and cultural changes set in motion by the October Revolution. Without these changes, it would certainly not have been possible, but it was itself one of the necessary conditions and one of the objectives of these changes.

An objective, since the right to education was from the outset considered a fundamental right of man and education an essential factor for his self-realization, and a condition, since the expansion of modern education is essential for economic and cultural development and social progress.

Of course, the experience of one country, however significant it may be, cannot be transposed as it stands to other countries. Nevertheless, such experiences should be reflected on, since a study of and acquaintance with them may provide a major contribution to research on solutions to the specific problems, requirements and aspirations of certain other countries.

Although it is impossible to completely ignore the concrete historical, socio-economic and political conditions of this development, I shall endeavour to define certain characteristics which appear to me to contain principles and lessons of general scope and interest. Some may

seem to be obvious. Nevertheless, I feel I should mention them, since it is taken as a whole that they have their full significance.

The first decisive condition and factor is the existence of a 'plan for society' and a steadfast political will, a profound commitment to develop mass education.

The existence of a clearly defined philosophical doctrine, social ideals and conception of education, and a coherent, carefully worked out long-term educational policy forming part of a general policy of social change and development, and its determined and perservering application, enabled the Soviet Union to attain a very high level of educational development over a short period of history.

This policy was a decisive factor in keeping up a sustained rhythm of development, and appears to me to be the first condition of success.

The lack of such policies, or of determination and continuity in their application, is by no means rare in many countries, where changes of government or authorities lead to the abandoning of policies which have been worked out and have hardly begun to be applied.

A long-term policy is also necessary for effective planning, which should also form an integral part of socio-economic planning.

This brings me to another important factor for the coherent, sustained development of education, and to another lesson of the Soviet experience: planning. Planning is a major instrument for the application of a long-term policy. Strict implementation of the plans, which have legal force in a Socialist State, and the mobilization of material, financial and human resources, have been, and remain, an important factor in attaining the objectives laid down.

Unfortunately, we observe that in certain countries educational development plans, too, are sometimes abandoned before they have even begun to be applied. Frequently, moreover, in spite of declared intentions, these plans have no organic links with the socio-economic development plans.

Concerning this question, I should like to dwell on a point which I feel is important. It has wrongly been asserted in the West that the educational development plans in the USSR have been determined solely by the concern to train labour, that is, by exclusively economic considerations. This is not so. The plans have always been motivated by a combination of social, economic and cultural aims. Moreover, it is often difficult to establish a strict line of separation between the economic and social, and the social and cultural aspects, at least insofar as concerns education. Assertions such as the above are based on a misunderstanding of Soviet history and society. If such assertions were true, would top priority have been given after the October Revolution to the achievement of universal, compulsory primary education, which, as is well known, does not train pupils directly for trades and professions ? Again, would priority have been given to the eradication of adult illiteracy ? While it is true that illiteracy has always been regarded as an obstacle to economic development, it is significant that this is not the aspect that Lenin was chiefly referring to when he pointed to illiteracy as one of the three main enemies of the young Soviet State. The illiterate person, he emphasized, stays out of politics and public life, and a State which is based on the masses and must be managed by the masses cannot accept illiteracy, which prevents the masses from taking part in public life.

Moreover, while it is true that Stroumiline, taking an historical initiative, showed in the 1920s, with figures to back him up, the superior economic 'rate of return' on investment in general education as compared with 'on-the-job' vocational training, he did so precisely in order to support the introduction of compulsory primary education.

Likewise, by making secondary education compulsory, the Soviet State, while taking into account the importance of this measure for economic development at the time of the scientific and technological revolution, was chiefly motivated by ethical, social and cultural considerations. The relevant provision of the 1977 Constitution refers to the right to education. It follows from another article in the Constitution, which mentions the principle that: 'The free development of the individual is the condition for the free development of society in general', specifying that 'the State sets itself the aim of extending the citizens' real possibilities for applying their creative energy, abilities and talents, and for the harmonious development of their personality'.

Before going back to planning properly speaking, I should like to point out the following characteristic of the Soviet experience, which appears to me to provide a lesson of capital importance: so long as there exists, in a country which is determined to develop its economy and ensure social progress, mass illiteracy, and a large part of the younger generation remains outside the school, the chief educational priority must be to ensure a constant rise in the rate of primary-school enrolments, until universal schooling of children is achieved and illiteracy eradicated among the adult population.

Now, we know that in numerous developing countries, throughout the 1950's and 1960's and frequently also in the 1970's, true priority was not in fact given to the extension of primary education, and even less to the eradication of adult illiteracy. The result has been that the number of illiterates has continued to increase, greatly hindering the people's mastery of the know-how and technology required for development.

To come back to planning, I should like to make a few remarks.

- Firstly, concerning educational planning and manpower planning. Whereas in the Soviet Union the one has never been confused with the other, in the 1960's, when the non-socialist world, which disparaged planning prior to the launching of the first Soviet sputniks, afterwards recognized it (almost overnight, one might say), as an effective instrument and method for development, it has often been explicitly or implicitly reduced to manpower planning. This mistake perhaps originated in the widespread view according to which development was identified chiefly, if not exclusively, with economic growth. It was felt that the basic, if not sole objective of education as a development factor, was to ensure the rapid training of requisite numbers of skilled labour and managerial staff. This narrowly economic outlook on the objectives of educational development has led, both in books and articles and in the practice of numerous countries, to priority being given to the post-primary levels, since it was felt that these levels contributed more directly to the training of skilled labour and managerial staff, and consequently to economic growth. In spite of official declarations, the development of primary education regarded as a 'social' objective was felt to be less important than the 'economic' objective, and was accordingly neglected.

It should be pointed out that educational policies and planning aiming at development in the full sense of the term cannot attain their objectives unless they recognize the close connection between economic, social and cultural needs, and, as a consequence, the close interplay and interdependence of the economic, social and cultural functions of education. Giving priority to one function to the detriment of the others, especially over long periods of time, inevitably leads to serious imbalances in the education systems and their functioning, and may have negative effects even with respect to the objectives which have been given priority.

Underestimation of the social and cultural functions of education has in many countries had negative consequences for development in general and economic development in particular. This would not be hard to prove.

The failure of the conception according to which development is reduced to economic growth has led, over the last few years, to a more global conception of development incorporating the economic, social and cultural aspects and, in the process, to a more balanced conception of priorities, proportions and objectives in education-system development, to the recognition of the fundamental importance of primary education and the eradication of illiteracy, and, in a growing number of countries, to the redefinition of priorities so as to take more fully into account the various functions of education and enable it to develop in a more balanced manner, more in accordance with development requirements.

If the Soviet experience in educational development and development planning had been studied more carefully, perhaps certain imbalances in education policies and certain planning weaknesses could have been avoided.

I feel it is important to distinguish clearly between educational planning and planning of manpower training. The latter form of planning must cover training of manpower within the education system, but also outside the system, for example, in production centres (industry, commerce, agriculture, etc.). Its field, therefore, while partly overlapping the field of educational planning, goes well beyond it. As a consequence, it requires measures extending well beyond educational planning. For its part, educational planning mandatorily includes the training of skilled labour and staff carried out within the framework of the education system (technical education and vocational training, training of teachers, higher education, etc.). But it also extends to the other parts of the education system, in which manpower training is not the immediate function (general education, literacy, non-vocational adult education), and which, as a consequence, remain outside the field of planning for training of labour and specialists.

This distinction should not, however, lead to a separation of the two types of planning. Distinction does not mean isolation. In view of the fact that the two types of planning are interdependent and their fields overlap to a large extent, it is essential that they be closely co-ordinated. Integrated planning of education and manpower training within the framework of overall socio-economic and cultural planning, is essential for the effectiveness of both types of planning. This is how planning is carried out in the USSR.

Another point concerning planning. During the 1970's a tendency was noted in certain countries to lay the blame on educational planning for difficulties and for the aggravation of certain problems which existed previously but which became more visible following the expansion of education, that is, owing to their quantitative enlargement. Planning is often held responsible for graduate unemployment. Even disparities between educational goals, contents and structure and the requirements and conditions of the countries concerned, and school wastages, are sometimes blamed on planning.

While planning may be partly responsible for certain imbalances in the system, and for 'over-production' in certain fields, the main burden of blame for these imbalances falls on the educational policies, or the lack of clear, long-term policies, or again failure to implement the plans, or their abandonment. Likewise, the lack or inadequacy of changes in content and structures, or again in methods, are due not to planning, but to the education policies or to the educational bodies, the lack of a coherent pedagogical conception or of perseverance in applying this conception.

Confusion is thus set up between planning and policies, planning and reform, and planning and pedagogical research, this confusion being due to the unconsidered extension of the notion of planning and of the planner's field of activity. The planner is entrusted with tasks and functions which are not specifically his and for which he has not the requisite technical competence or authority. And when the problems cannot be solved or get worse, he is the one who is blamed for the situation.

It is obvious that the task of planning is to implement the principles, guidelines and goals defined by policies, by clear objectives the achievement of which is phased over time, related to the objectives of socio-economic and cultural development, and work out and implement a coherent and co-ordinated set of financial, material and organizational measures concerning the evolution of enrolments, the training and utilization of teaching staff, building and allocation of educational establishments and institutions, supply of plant and equipment, production of textbooks, along with the organizational and financial measures required to implement innovations, changes and improvements. But decision-making regarding major reforms and their formulation is not the task of planning. This is the responsibility of political and legislative bodies, and its working-out requires the participation of numerous departments and specialists, in which planning bodies and planners have a certain rôle to play. But they are far from being the only ones, and their rôle is sometimes more modest than that played by certain other departments or specialists.

Likewise, decisions concerning educational content and methods and the working-out of new curricula are the job not of planners but of specialists in the relevant fields, whose judgments are based on the results of research in exact and natural sciences, the humanities and social sciences, educational research, etc.

The confusion between planning and policies, planning and reform, and planning and pedagogics, which is sometimes due to the misinterpretation of what is called planning of the qualitative aspects of education, is likely to deprive planning of its specific field of action and purpose and lead, in fact, to a lowering of its effectiveness and even its complete annihilation.

Nowadays, whenever a discussion is held concerning the rôle and functions of planning, I feel it is important that all confusion should be avoided. A return to the origins of planning may help find the right path, and these origins must be looked for where planning came into being and has proved itself and shown its effectiveness for half a century, namely the Soviet experience, the study of which is sometimes overlooked.

I do not mean to say that this experience should be mechanically transposed, nor that everything is solved in it. Nor do I mean to say that the concepts and methodology should remain as they are, without evolving. On the contrary, they should progress, become richer, and change in the light of various experiences, taking into account acquired knowledge and specific situations and needs. Moreover, over the years, Soviet planning has greatly evolved and been enriched, and it will continue to be so. However, certain basic principles remain valid, and a knowledge of them appears to me essential if we are not to wake up one day and find that educational planning has become a dead letter, that it has disappeared as a result of the confusion and the ill-considered extension of the notion of planning.

One of the factors which ensured rapid progress in the field of education was the support of the masses and their organizations, their close association with and participation in the task of education. This made possible the mobilization of extensive human resources; the masses' participation in cultural and educational development enabled an immense potential of initiative and energy to be tapped for the campaign to eradicate illiteracy, build schools, use schools for various educational programmes designed for the people, and set up out-of-school education institutions for young people and adults.

Such a participation implies an understanding of the educational policy, adherence to the policy, and, for that reason, participation in devising the policy.

This fact is generally passed over in the West in analyzing the factors and conditions which have ensured the rapid development of education in the USSR.

Now, this is one of the most important lessons of the Soviet experience, and I feel that it too deserves attentive study.

Education is regarded as everyone's concern, everyone feels responsible for it. It is not isolated like a self-contained island in the midst of society. The local Soviets (local authorities), industrial and agricultural enterprises, trade unions, youth organizations and other mass organizations maintain close contacts with the educational establishments, helping them improve their facilities and enabling them to take part in work and activities of social utility. Thus participation also helps bring the school nearer to life and community concerns, and integrate it into the working world, helping develop in the young a better knowledge of life and work, a civic spirit and the sense of social service and responsibilities to society. Co-operation between the school, the family and the community as a whole is a major characteristic of the education system in the USSR.

These principles were reasserted in the Basic Law on education, adopted in 1973, as a necessary condition for establishing education related to life and preparing for life.

Another factor and condition permitting the development of education in the Soviet Union has been the use of mother tongues as teaching languages. The USSR is a multinational State. The policy of the Soviet State, from its foundation, aimed at providing real equality for all the country's peoples, many of which were almost completely illiterate prior to the October Revolution, and whose languages had not even been transcribed. To make educational equality a reality, the principle of instruction in the mother tongue was applied. Writing was developed for over 40 languages which had no alphabet prior to 1917, teaching staff were trained, and textbooks and other books were prepared and published. It is to a large extent this policy that ensured the rapid eradication of illiteracy in the adult population and the effectiveness of school education, since it is obvious that education in the mother tongue eliminates difficulties which are bound to occur when teaching is given in a language which must itself be mastered, before learning may take place.

The problem of languages of instruction exists in many countries. It is not easy to solve, and the solution can certainly not be the same everywhere. Numerous factors are involved: political, social, cultural, pedagogic and others. However, a number of countries are gradually moving towards the use of national languages as vehicles of instruction. In this respect, the Soviet experience may open up avenues for research on suitable solutions, taking into account specific national situations and characteristics.

Another important factor should be mentioned, which has greatly contributed to the expansion of education and the raising of the population's cultural level. From the first years of its existence, the Soviet Union undertook on a large scale a regular, co-ordinated campaign to set up and develop, alongside the general-education, vocational, technical and higher-education establishments, various educational institutions and forms of education for adults, children, and the young. During the early period, there were, for example, literacy classes for adults, and workers' faculties designed to prepare workers and peasants for entry into the higher-education system, which played a very important rôle in training and renewing the country's managerial staff. Later on, correspondence courses and evening classes enabled millions of people leading active working lives to acquire general secondary or technical education and/or higher education, while training and vocational-refresher courses, people's universities, and, for the children, pioneers' houses and palaces, young technician's and young naturalist's centres, etc., have been, and remain so many efforts to provide greater opportunities for the various age-groups and implement what was later to be called life-long education.

Thus, an education and training system was set up and developed, in which the school and out-of-school institutions for children, the young and adults, complement one another.

The endeavour to develop both school and out-of-school education, and to organize them so that they complement one another, this is what the Soviet experience might suggest as a necessary condition for meeting the variety of educational needs and providing the people with access to knowledge and culture.

The promotion of schooling alone is not sufficient. It must be backed up by other forms of education. These forms have their own inherent value, but in addition, they develop a mood and atmosphere which greatly increase the efficiency or 'yield' of the 'formal' institutions.

It is unfortunate that there is a tendency, in certain books and articles, to set school ('formal') against out-of-school ('non-formal') education. School education is sometimes portrayed as being by definition conservative, inflexible, dogmatic, and authoritarian, whereas out-of-school education, simply because it is out-of-school and 'non-formal', is declared to be innovative, flexible, and leaving room for initiative and creativity, in every case and everywhere. The extreme forms of this opposition lead to the negation of well organized education, and to theories of 'deschooling' and 'death of the school'.

It should be mentioned that very similar ideas were put forward in the USSR in the 1920's, under the slogan of 'the decline of the school'.

However, these ideas were rejected, and the solution to education problems at a time when there were still millions of illiterates and children not attending school was found in the renewal, complete democratization and consolidation of the school and other establishments providing regular organized teaching, supplemented by the intensive development of out-of-school education.

It should be pointed out that remoteness from life, authoritarianism and rigidity, are by no means inherent attributes of organized and methodical in-school education. These phenomena are connected with certain very specific education systems, those which have not changed much over the decades or which have been imported from abroad without undergoing a thorough change in their objectives, structures, contents and methods.

While it is essential to develop diversified forms of out-of-school education open to various groups of children, young people and adults, this should not be done to the detriment of the school institution.

In many countries, the school and other institutions of organized and structured education undoubtedly need to thoroughly renew their structures and the contents of their activity, to bridge the gap which often separates them from life, and to look for more suitable ways of having the students take part in socially useful work while they carry out their studies. It is essential that they should constantly evolve and turn resolutely towards life, the present and the future. But only these institutions can serve as the foundation and hinge-pin of modern democratic educational activities.

The Soviet experience also teaches the lesson that it is not enough to set up an increasing number of schools and other education and training institutions. Boarding schools must be set up in sparsely populated regions, since it is impossible to maintain schools in areas where there are only a few children, who often live tens, if not hundreds of kilometres away from one another. Pupil's transport must be provided. Free schooling is not enough. In the USSR, a special fund was set up to provide partial or complete State support for the maintenance of pupils from low-income families. The pupils in specialized secondary-education establishments and the students in the higher-education system hold, for the most part, State scholarships.

It should be pointed out that a special effort has been made to ensure women's equality in education. In this respect, the USSR was certainly the first country to attain this goal. The result is that not only do women represent the great majority of health staff, especially doctors, and the teaching body, and approximately 30 per cent of engineers, but also, in a more general way, society benefits from the development of the potential of half the population, a potential which otherwise would have remained undeveloped, without being able to make its full contribution to society. The fact must also be taken into account that women's education makes a major contribution to family education, children's school attendance and the general raising of the community's cultural level, the effect of which, both social, cultural and economic, although sometimes indirect, is nevertheless very important.

This lesson from the Soviet experience should, it seems to me, encourage efforts to provide the female population with the same educational benefits as the male population.

It is worthwhile mentioning a few other characteristics which also appear to me to provide lessons worthy of attention.

Certain developing countries appear to be interested in making secondary education completely vocational, in order to overcome the over-abstract nature of general education.

The Soviet experience suggests another path. In the early 1920's there were also in the USSR those who favoured making the second cycle of secondary education vocational. A decision was even taken along these lines. In certain federated republics, the second cycle of secondary education was made vocational. Lenin accepted it only as a temporary practical measure, due to the country's poverty and devastation as a result of foreign military intervention. He vigorously opposed all attempts to find theoretical justification for premature vocational training, for abandoning the principle of general and polytechnical education for all pupils until the age of 17, and replacing it by a monotechnical education. A few years afterwards, vocationalisation of schools, where it had been applied, was abandoned. The Soviet Union chose to maintain, renew and strengthen the general-education school, providing sound training in basic knowledge closely linked with polytechnical education. But this is not the same as the 'academic' or traditional general education which is still preponderant in many countries.

The question of educational content is closely connected with the question of structures. After the Revolution, a single (common-core) school replaced the various types of establishments which had no real connection between them, and accordingly no continuity. They were often blind alleys, with unequal curricula. The single school means that there is no blind alley, no 'noble' or privileged type or stream designed for an 'élite', and others for the masses. It means that each stage leads on to the following stage, so that from their first year until the end of higher education, all students can move forward without coming up against barriers or going up blind alleys. Moreover, it is interesting to notice that in many countries there is a tendency to extend the period of common-core education and postpone streaming or the commencement of vocational training.

A few comments seem to be called for here concerning the relationship between general education and technical and vocational education.

The maintenance, renewal and strengthening of general education by no means signify that technical and vocational education has been neglected or its importance belittled. A distinction must be made between vocationalization on the one hand, and the development of technical and vocational education, which is vital for the working masses and for socio-economic development, on the other hand. Vocationalization means purely and simply the disappearance of general education well before the end of the secondary cycle.

Now, the problem can be posed quite differently. It is a matter of developing technical and professional education and at the same time ensuring the requisite expansion of institutions of general education. This is the path which has been followed in the Soviet Union. And if in 1975 there were 10,759,000 pupils in the upper cycle of general secondary education, there were 3,381,000 students undergoing technical and vocational education (an increasing number of these receiving complete general secondary education, which provides access to higher education), and the pre-university specialized education establishments which train medium-level staff (technician level) and provide, in addition to technical training, complete general secondary education (which again qualifies them for access to higher studies), were attended by 4,525,000 students, giving a total of some 7,900,000 students in the various forms of pre-university technical and vocational education institutes.

The lesson suggested by these figures could be that in many countries, the proportion of secondary-level students undergoing technical and vocational education should be greatly increased.

The urgency of manpower needs on the one hand, and, on the other, a lack of resources making it impossible to undertake technical and vocational education after general education to a high level, may justify vocationalization at a relatively early age, as an immediate and temporary measure. However, in the long term, the re-establishment of general education up to the beginning of higher studies appears both necessary and inevitable, and this not only for pedagogic and cultural reasons, but also because of a clear tendency for economic development, technological progress and the rising proportion of intellectual labour in the total labour of society to require an ever higher level of initial general education.

To go back to the content of general education, it should be pointed out that it was thoroughly revised immediately after the Revolution, in order, on the one hand, to modernize it, and rid it of the hotchpotch of outdated knowledge or knowledge of no great scientific or cultural significance, and, on the other hand, to free it from the ideology of the former privileged ruling classes, and to make it completely democratic by instilling into it the ideals and values of the working classes and the October Revolution. I should also like to point out that, since then, it has been revised several times so as to keep up with the progress of knowledge and with the growing socio-economic and cultural development requirements of Soviet society.

The purpose of these revisions has been to bring the content of education into line with what may truly be defined as a general education for our time, that is, what is required

by everyone from the viewpoint of development of the personality, knowledge, know-how and abilities for the era in which we live. For it must be accepted that the content of general education should evolve with time. What was good 50 or 100 years ago may become out-of-date and lack what now appears to be essential for everyone. General education of the past may no longer be the general education of today. If, once upon a time, Latin, for example, was a fundamental of general culture, this was to a large extent because it contained the key to knowledge. It was accordingly indispensable for access to knowledge. But it no longer is so. It is not useless, but it is not indispensable. On the other hand, there are other aspects of basic knowledge which are required by everyone going out into life, and which have a major rôle to play in the full development and education of contemporary man, but which are not contained in the curriculum.

Moreover, the conventional or traditional general cultural education was in the past designed for privileged social classes, in other words, very restricted minorities whose future was assured and predetermined by their origins and social milieu, and this future was usually not in the productive sectors. As a consequence, their 'general culture' was to a certain extent 'general' for them, but not necessarily for everyone.

For the above reasons, when general education is open to all and endeavours to keep up with the times, a profound change in its content and its regular renewal and updating are required in order that it may be truly a general culture for everyone and for its time.

This has been the pattern of education in the USSR. The initial revisions were undertaken precisely in order to eliminate the elitist nature of educational content, and to bring it up to date. Later on, they were carried out in order to ensure compatibility of educational content with progress in various fields and the requirement of complete personality development, and to provide a better preparation for life.

A few more details should be provided on this subject.

Education and educational content were marked, prior to the October Revolution, as they are now in numerous countries, by their complete divorce from life and the gulf between theory and practice.

In the first few years following 1917 a great deal of work was accomplished in order to relate education, and especially educational content, to life, the country's requirements, and the task of building the new society. Not only is this by no means in contradiction with the goal of the complete and harmonious development of the individual, but I feel it is impossible to conceive of such development in the abstract, divorced from life, since man is a social being and his self-fufilment is conceivable and feasible only within society. An education system which turns its back on life and its problems, and fails to meet the people's aspirations, is an alienating education, the contrary of an education system which may truly contribute to the complete and harmonious development of the individual.

The effort to establish a close liaison between education and life has not ceased to be intensified. This liaison is one of the basic principles of education in the USSR at all levels and in all forms. It concerns both the objectives, content, methods and organization of the

education system, and the planning of its general development and the development of the various types and streams at the levels of technical and vocational training and higher education in particular.

Another point already mentioned, which is of major importance, concerns the problem of the liaison between education and life, and can to a large extent be identified with this problem. The point in question is the connection between theory and practice. The establishment of this connection, the conceiving of education and its content, including general education, with a view to providing practical training, and to teaching the practical application of theoretical knowledge, especially by associating education with productive, socially useful work, constitute a basic principle of the Soviet education system and are the pedagogic application of a basic philosophical and methodological principle, according to which theory devoid of practice is barren, and practice devoid of theory is blind. The measures adopted, during the first few years following the founding of the Soviet State, in order to establish this connection, strengthen and improve practical training, and associate education with work, have been refined, diversified and perfected with time. The international debate on education shows that the problem is very much a question of the day in many countries.

However, certain educators express their fear that practical training, and in particular the introduction of work into the education process, may lead to a lowering in the level and quality of general education. Others criticize the academic and theoretical nature of education in the developing countries, recommending, on the contrary, that it be romodelled and turned into exclusively practical education, or even that it be 'vocationalized'.

I feel it is important to remove all misunderstandings or confusion concerning this point.

Giving education a practical scope does not exclude a high theoretical and cultural level of education. Likewise, the improvement of quality and maintenance of a high theoretical and cultural level by no means prevent education providing practical training at the same time, that is, teaching the practical application of acquired knowledge, and incorporating work as a part of general culture. Finally, education can very well have a practical scope while at the same time providing a general culture, and without being vocational. Therefore, the issue is to establish a close connection between theory and practice, theoretical education and practical training, and not setting them over against one another. On the pedagogical level, this task is complex, but it is perfectly feasible if the question is stated clearly, if the determination is there, and if the requisite means are employed.

This is fully confirmed by the Soviet experience, where an effort to raise the theoretical level was accompanied by measures to improve practical training and combine studies with work. The experience illustrates, moreover, a trend which has become more and more marked: as the theoretical level of education has risen, so its practical scope has increased. This trend is a clear illustration of a very profound idea expressed by the following phrase: nothing is more practical than a sound theory.

The liaison between education and life, and the linking of theory and practice, ensure the effectiveness of the education system and its relevance to the needs of society. This appears to me to be an important lesson of the Soviet experience.

For higher education, for example, there are several aspects to this liaison, three of which I shall mention here. Firstly, it has resulted in the high rate of development of the various types of higher-education establishments. The university system has developed greatly in the USSR, with the number of universities increasing from 12 in 1914 to 63 in 1975 (68 at present), and the number of students from 40,776 to 566,000, but the development of higher education as a whole has been even greater. The total number of higher-education establishments (including universities) increased during the same period (1914-1975) from 105 to 856, and the total number of students from 127,000 to 4,854,000 (5.1 million at present). [It should be pointed out that, unlike the practice in many other countries, engineers, doctors and teachers (for the great majority) and certain other specialists, are trained in the USSR by specialized higher-education establishments known as Institutes (Pedagogical Institutes, Medical Institutes, Engineering Institutes covering various fields, Agronomical Institutes, Veterinary Institutes, Transport Institutes, Communications Institutes), rather than in university faculties. These Institutes have the same status as the universities, and the diplomas awarded by them are university diplomas conferring the same rights and universally recognized as equivalent to those awarded by the universities. In this respect, the two are completely equivalent, as they are for entry conditions and duration of studies.]

The development of higher-education establishments other than the universities, that is, establishments providing training in fields of application of various sciences, and the growth of their student numbers, has accordingly been far more rapid than that of the universities, thereby meeting the need for specialists in specific fields of socio-economic development, while at the same time directing the young towards fields of study leading to sure job openings, and thus providing them with an assurance that they will be able to fulfil themselves in their working life and gain the satisfaction of being useful and of service to their country[1/]. It should be pointed out in this respect that specialization is based on a broad general training in fundamental sciences. This training has become increasingly intensive over the last few years, especially in order to prepare specialists for creative work, to provide them with training enabling them to keep up with the rapid progress of knowledge and contribute to it, to acquire learning in fields related to their specialty, and, if necessary, to be reoriented to new specializations.

Many countries face a shortage of specialists in fields important for national development, while at the same time part of their young university graduates have serious difficulties finding a job corresponding to the training thay have received, and their lot is either

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1/ We may mention as an example that over 40 per cent of those who complete their higher studies have an engineer's diploma, and 20 per cent a teaching diploma.

unemployment or under-employment. The underlying causes of this situation are external to education, and are to be in the socio-economic conditions. Nevertheless, one way of remedying this, even partially, might be to redefine types of training and work out measures with a view to a more rational distribution of higher-education students, between the universities and other establishments, by conferring on the latter a status and prestige equivalent to the university's. This is a complex problem, requiring the undivided attention of education authorities and planners. The Soviet experience is highly instructive in this respect and, I feel, deserves study.

The way in which higher-study curricula are conceived is a basic factor in establishing an organic connection between education and the realities of work, between theory and practice. In the Soviet Union higher-study programmes provide (in addition to lectures, seminars, laboratory work, etc.) for several practical application periods during studies, and for their analysis and assessment in the form of discussions and the writing of reports and theses. Theses periods are organized depending on the field of study, in industrial or agricultural enterprises, hospitals, educational establishments, research institutes, etc. In addition, for engineering specialties for example, the student must acquire in the course of the initial years of higher studies, a high level of qualifications as a worker in his special field of study. This also forms part of the curriculum.

Lastly, to keep education closely related to life, the students take part, during part of their vacation, in construction projects and other major works of public utility, by setting up teams and going out for several weeks into the various regions of the country. This work, which is voluntary, is very much sought after by the students. Hundreds of thousands of them take part in this 'work semester', as this form of student participation in the community's work is usually called, and it permits direct, active contact with real life, the working world and workers, and is, in addition, of major significance for the students' moral training and the development of civic spirit.

This last point is a prime objective of linking education with life. Education is not fulfilling its function unless it helps develop in the students a sense of responsibility for the destiny of their country and the determination to serve their people.

There is no need to insist upon the importance of these various issues for many developing countries.

Before concluding, I feel I should make a few brief remarks on two points which have been mentioned several times. These remarks may help give a better understanding of certain important aspects and conceptual principles of education in the Soviet Union. The two points in question are polytechnical education and the liaison between education and work. Certain developing countries show a great deal of interest in the former point. Insofar as concerns the question of linking education and work, numerous countries in every region of the world assign an increasing importance to it.

Over a century ago, Marx showed that modern industry never regards an existing form of production as final. Constantly changing, with the technical basis of production, the division of labour within society, it ceaselessly moves masses of capital and workers from one production branch to another. This is why the nature of large-scale industry 'necessitates variation of labour, fluency of function, universal mobility of the labourer'. Marx noted, however, that large-scale industry reproduces, in its capitalist form, the old division of labour with its rigid peculiarities. He pointed out how this absolute contradiction 'dispels all fixity and security in the situation of the labourer; how it constantly threatens, by taking away the instruments of labour, to snatch from his hands his means of subsistence, and by suppressing his detail-function, to make him superfluous'.

In formulating the law of variations within the work process and 'as a fundamental law of production ... the greatest possible development of [the labourer's] varied aptitudes', Marx showed the objective necessity of replacing 'the detail-worker, ... crippled by life-long repetition of one and the same trivial operation, ... by the fully developed individual ... to whom the different social functions he performs are but so many modes of giving free scope to his own natural and acquired powers.'

The contemporary relevance of this remarkably lucid and profound analysis by Marx has continued to increase with time, particularly in the light of the rapid increase in scientific and technological progress, the profound changes this has led to in the economy and the employment structure, and the requirements it creates, for the workers and the active population as a whole, with respect to educational level, polyvalence and occupational mobility.

This analysis was of capital importance for education, since the harmonious and full development of man appeared as a social and economic imperative and no longer merely as a generous but abstract wish. It thus became at once an ideal and an absolute necessity for education in the new society, freed from the unsurmountable obstacles and contradictions of the society based on the opposition between manual and intellectual labour, on profound social inequality and the exploitation of part of society by the other part. The full, integral development of man as the supreme goal of education was accordingly viewed within the context of a transformation of society which was essential if anything were to be achieved.

This analysis also enabled Marx and, later, Lenin to give a concrete content to the notion of full and harmonious development, by specifying its various aspects, in particular intellectual education, polytechnical education, work education, and moral, aesthetic and physical education.

It also served as a basis for formulating and developing the concept of polytechnical education and the idea of linking education and productive work, basic elements, closely connected together, in the full and harmonious development of the individual, the new pedagogic humanism and a general education designed for all and meeting the requirements of our time.

Polytechnical education may very briefly be defined as providing an initiation in the fundamental principles on which all production processes are based, and teaching students to handle the simplest tools and instruments required in the various production processes.

The aim is not to dispense knowledge concerning all the branches of the economy at once, but to teach the principles and foundations of production taken as a whole, and provide a theoretical and practical introduction to the main production sectors.

Polytechnical education is not a separate subject or discipline, to be taught apart. It is a general principle, and is closely tied to the acquisition of key knowledge, especially in science, of which it forms both a dimension and an extension. It is important, moreover, not to confuse polytechnical education with vocational and monotechnical education. It should serve as the basis for all modern technical and vocational training, but it has not in itself the immediate aim of providing training for a specific profession or trade.

As is clear from what has been said above, polytechnical education is also closely connected to education through and for work. It enables an organic connection to be established between education and work, an internal link between the contents of both.

Insofar as concerns the association of education with work, its importance is now widely recognized. We said earlier on that this is a fundamental factor for the full, harmonious development of the individual. It is one of the most concrete, active and enriching forms of the liaison between education and life, and as such, it makes a major contribution to intellectual, moral, physical and aesthetic education. It is designed to help overcome the age-old division which has opposed manual labour and intellectual labour, and to eliminate the resulting artificial compartmentalisation of man's faculties.

Marx felt that the combination of productive work, learning and physical education was the only way of attaining the full development of man. Lenin, for his part, emphasized that it was impossible to conceive the ideal of the future society without a combination of education and productive work for the younger generation.

Of course, this combination takes on different forms relevant to the specific conditions and characteristics of each country. The Soviet Union has a wealth of experience on this question. It is not our intention to study it in detail. We have endeavoured here to point out the principle, and its importance for modern democratic education designed to provide a preparation for life and contribute to the complete self-fulfilment of the individual.

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Likewise, the aim of this paper as a whole was not to provide a complete, systematic description of education in the Soviet Union. We have endeavoured to highlight some of its principles and certain characteristics of its development, pointing out certain lessons which can be drawn from them concerning problems at present faced by many countries throughout the world, and to identify certain factors and conditions which, in the light of Soviet experience, appear essential in order to solve these problems.

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Lecture and Discussion Series No. 65. The author, tracing the spectacular educational progress achieved by the USSR since the Revolution of October 1917, sets out to highlight the principal factors behind this development and discusses the lessons other nations might draw from the Soviet experience.

His analysis extends to the interface of policy and planning in educational development, and stresses the equally strong rôle of economic, social and cultural needs in shaping Soviet educational policies. It points to the complementary emphasis placed on developing the school system along with various forms of out-of-school education, both based on the principle of democratization and widespread popular participation. Finally, the paper demonstrates how educational reform in the USSR has successfully sought to insert education in life and associate it with productive work, thus ensuring a fruitful penetration of theory and practice.